PATENT ABSTRACTS OF JAPAN

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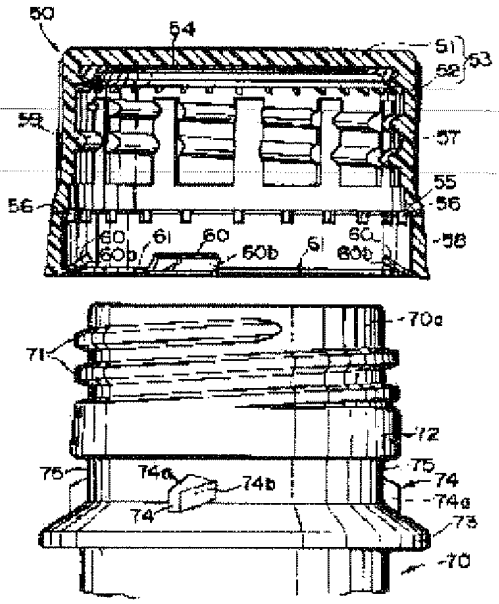
(54) CLOSING DEVICE

(57)Abstract:
PURPOSE: To provide a closing device which is provided with a container on which both a metal-made cap and a synthetic resin-made cap can be placed and which can make B.B.A small when the synthetic resin-made cap is placed on the container and can display a satisfactory tamper-evidence function.
CONSTITUTION: In a closing device consisting of a container 70 having a threaded part 71 formed around the outer periphery of its mouth part and an enlarged step part 72 formed below the threaded part and a cap 50 placed on the container and having a TE ring part 58 separable from the container body upon uncapping, the locking pawls 74 are provided below the enlarged step part 72, the tabs 60 engageable with the locking pawls 74 are provided on the inner wall of the TE ring part 58 of the synthetic resin-made cap and the beads 61 are provided between the tabs 60 enlarging radially and inwardly.



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CLAIMS

[Claim(s)]
[Claim 1]A container with which a thread part was formed in a regio-oralis periphery, and a bulge step which bulged annularly in a method of the outside of a diameter direction was formed in a lower part of this thread part.
A cap made of a synthetic resin or the metal caps in which a tamper evidence ring part which was provided with a top plate section and a cylinder part which hung from the periphery, left two or more bridges to the lower part of this cylinder part, and was divided from a principal piece with a horizontal score was formed.
it is the choke provided with the above -- a bulge step of the above-mentioned container -- meeting one piece or a hoop direction via a diameter reduction part caudad -- two or more -- alienation -- an arranged locking claw, [provide and] To and an internal surface of a tamper evidence ring part of the above-mentioned cap made of a synthetic resin. there are two or more tabular tabs which can rise and fall to a sliding direction which formed protruding is carried out to a method of the inside of a diameter direction, and a one side face engages with the above-mentioned locking claw, and prevents movement in the unstopping direction of a tamper evidence ring part along a hoop direction -- alienation -- it being arranged and, And when a bead which bulged towards a method of the inside of a diameter direction is provided among these tabs, the above-mentioned container mouth part is equipped with this cap made of a synthetic resin and it turns in the unstopping direction, When the above-mentioned tab engages with the above-mentioned locking claw and the above-mentioned container mouth part is equipped with the above-mentioned metal caps, a tamper evidence ring part of this cap engages with a lower end of a bulge step.

[Claim 2]A container with which a thread part was formed in a regio-oralis periphery, and a bulge step which bulged annularly in a method of the outside of a diameter direction was formed in a lower part of this thread part.
A cap made of a synthetic resin in which a thread part which is provided with a top plate section and a cylinder part which hung from the periphery, and a tamper evidence ring part which left two or more bridges to the lower part of this cylinder part, and was divided from a principal piece with a horizontal score is formed, and is screwed in an internal surface of this principal piece at a thread part of the above-mentioned container was provided.
it is the choke provided with the above -- a bulge step of the above-mentioned container -- meeting one piece or a hoop direction via a diameter reduction part caudad -- two or more -- alienation -- an arranged locking claw, [provide and] To and an internal surface of a tamper evidence ring part of the above-mentioned cap made of a synthetic resin. there are two or more tabular tabs which can rise and fall to a sliding direction which formed protruding is carried out to a method of the inside of a diameter direction, and a one side face engages with the above-mentioned locking claw, and prevents movement in the unstopping direction of a tamper evidence ring part along a hoop direction -- alienation -- it being arranged and, And a bead which bulged towards a method of the inside of a diameter direction was provided among these tabs.

[Claim 3]A choke of claim 1 or 2, wherein a one side face of a tab and a contact surface of a locking claw which contacts a one side face of this tab at the time of cap unstopping are vertical planes.
[Claim 4]One choke of claims 1-3 forming in the above-mentioned one side face at least a heavy-gage part which improves the bending-proof nature of a tab among edge parts of a tab.
[Claim 5]One choke of claims 1-4 providing a vertical score which makes the shape of a band carry out ring breakage of this tamper evidence ring part to a tamper evidence ring part of a cap.

[Claim 6]One choke of claims 1-5, wherein a bridge destructive angle which is angle of rotation to a position which rotates a cap with which a container mouth part was equipped in the unstopping direction, and from which a bridge is cut is 90 degrees or less.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Industrial Application]This invention relates to the choke which consists of a cap which has the container with which the thread part was formed in the regio-oralis periphery, and tamper evidence which screwing fitting is carried out at the container mouth part, and the tamper evidence ring part connected with the cylinder part lower part at the time of unstopping is separated from a cap principal piece, and displays unstopping.
[0002]
[Description of the Prior Art]Conventionally, screwing fitting is carried out at the container with which the thread part was formed in the regio oralis, and its container mouth part, The thing of various kinds of shape is proposed as a choke which consists of a cap which has a function (called the pilfer-proof packaging characteristic or tamper evidence) in which the unstopping display ring part connected with the cylinder part lower part at the time of unstopping is separated from a cap principal piece, and displays unstopping.
[0003]Drawing 6 shows the choke which consists of a cap indicated to JP,52-14677,B as an example of the conventional choke, and a container corresponding to it. The cylinder part 4 in which this choke is caudad prolonged from the crowning 3 and the periphery of top, is ****ed to that inside, and has 5, The bridge 6 fractured by the nonreturn power of the condition nonreturn projection 14 and the cap nonreturn projection 8 when turning the cap body 2 to an unsealing direction, While the male screw 13 is formed in the regio oralis 12 so that it may be equipped with the cap 1 provided with the annular solid 7 divided from the cap body 2 by this bridge 6, and this cap 1, The choke which consists of the container 11 with which the condition nonreturn projection 14 was formed in the lower part of this male screw 13 is indicated. If this choke turns the cap 1 in the unstopping direction, the cap nonreturn projection 8 provided in annular solid 7 inner surface of the cap 1, It engages with the condition nonreturn projection 14 provided in the container 11, and rotation of the annular solid 7 is prevented by it, the bridge 6 is cut, and the annular solid 7 is separated from the cap body 2.
[0004]Drawing 7 shows the container lid made of synthetic resin (cap) indicated to JP,1-30702,B as other examples of the conventional choke.
The container provided with the container mouth part 30 in which the jaw part 32 by which the male screw 31 and this male screw 31 were caudad formed in the peripheral face is formed, and the cap 20 with which this is equipped are indicated.
This cap 20 possesses the top plate section 21 and the cylinder part 22 which hangs from that edge part, The breaking line 25 specified to this cylinder part 22 by the bridge 24 which exists between two or more slits 23 prolonged in a hoop direction and this slit is formed, and the cylinder part 22 is divided by the downward pilfer-proof packaging hem part 27 from the principal piece 26 and breaking line of the upper part [breaking line / 25].
The thread part 28 screwed in the male screw 31 of the container mouth part 30 is formed in the inner surface of this principal piece 26, and two or more projections 29 which project in the method of the inside of a radial direction at the inner surface of the pilfer-proof packaging hem part 27 are formed in the bridge 24 and the position which separated.

This projection 29 is formed in shape in which the projection amount to the method of the inside of a radial direction carries out a gradual increase toward the upper part from an axial direction lower part as shown in drawing 8.

[0005]In this choke, when equipping the container mouth part 30 with the cap 20, the pilfer-proof packaging hem part 27 carries out elastic deformation, and the projection 29 overcomes the jaw part 32 of the container mouth part 30, and enters into that lower part. And if the cap 20 with which the container mouth part 30 was equipped is turned in the unstopping direction, The projection 29 provided in the inner surface of the pilfer-proof packaging hem part 27 stops at the jaw subordinate end of the container mouth part 30, Movement to the upper part of the pilfer-proof packaging hem part 27 is prevented, tensile force acts on the bridge 24 which, as a result, connects the principal piece 26 and the pilfer-proof packaging hem part 27 of the cap 20, the bridge 24 is fractured, and the pilfer-proof packaging hem part 27 is separated.

[0006]

[Problem(s) to be Solved by the Invention]However, the following problems were among the conventional chokes mentioned above. The choke indicated to former JP,52-14677,B, When equipping the container mouth part 11 with the cap 1, it is required to compress the condition nonreturn projection 14 currently formed in the cap nonreturn projection 8 or the container mouth part 11 currently formed in annular solid 7 inner surface, and to rotate both relatively, but. In order to compress these nonreturn projection, it is necessary to add considerable big torque to a cap, wearing of the cap 1 is comparatively difficult, and there is a fault resulting from the considerable big torque added to a cap by which a bridge will be fractured at the time of cap wearing. In order to solve the fault, it is possible to make the projection amount of a nonreturn projection small, or to make a nonreturn projection elastic or flexible, but. If it is made such, it will become what has the insufficient engagement to the cap nonreturn projection 8 and the condition nonreturn projection 14 after equipping the container mouth part 11 with the cap 1, and the tamper evidence by an unsealing indication will be spoiled. In the above-mentioned choke, there is a fault with unique shape of the cap 1 and a container mouth part and difficult making it apply to the usual cap made of a synthetic resin and metal caps.

[0007]The cap 20 indicated to latter JP,1-30702,B, By having detached and formed the projection 29 and the bridge 24 of the pilfer-proof packaging hem part 27, When equipping the container mouth part 30 with the cap 20 and the projection 29 overcomes the jaw part 32 of the container mouth part 30, even if the pilfer-proof packaging hem part 27 carries out elastic deformation, it has prevented fracturing the bridge 24. However, the projection 29 provided in the inner surface of the pilfer-proof packaging hem part 27 at the time of unstopping stops this cap 20 at the jaw subordinate end of the container mouth part 30, and it prevents movement to the upper part of the pilfer-proof packaging hem part 27, Since it has structure which fractures the bridge 24 with the tensile force which acts on the bridge 24 which, as a result, connects the principal piece 26 and the pilfer-proof packaging hem part 27 of the cap 20, When a cap was formed with a synthetic resin, the unstopping direction had to make it carry out angle rotation of the cap body for the bridge 24 to lengthen simply and to be extended, if tensile force acts on the bridge 24, and to make this fracture.

[0008]If it is in the cap which has this kind of tamper evidence, When turning the cap with which the container mouth part was equipped in the unstopping direction from the first position, Angle of rotation (seal release angle; henceforth S.R.A) at the time of the upper bed of a container mouth part separating from a cap inner surface or a liner, and the sealing performance of a container being canceled, a relation with angle of rotation (bridge break angle; henceforth B.B.A) to the position from which a bridge is cut when turning the cap with which the container mouth part was equipped in the unstopping direction from the first position -- S.R.A-B.B. -- it is made desirable A= 0 times or more for there to be 30 degrees or more preferably. That is, at the time of cap unstopping, it is made desirable to cut a bridge, before a container mouth part upper bed's separating from a liner etc. and canceling a sealing seal. In what put this cap on the container mouth part, using the metal caps of an aluminum containing alloy etc. as a cap of a choke, and carried out winding up of that cylinder part in accordance with the periphery of a container mouth part. Since the above-mentioned B.B.A can generally be made small with less than 90

degrees, the value of S.R.A-B.B.A can be enlarged. However, if it was in the cap 20 made of a synthetic resin mentioned above, by stretch of the bridge 24, B.B.A would become large, and may be less than S.R.A-B.B.A=0 degree, and there was a point which should be improved from a viewpoint of improvement in tamper evidence.

[0009]When equipping the container mouth part 30 with this cap 20, and the pilfer-proof packaging hem part 27 carries out elastic deformation, the projection 29 is what overcomes the jaw part 32 of the container mouth part 30, Even if it detaches and forms the projection 29 and the bridge 24 of the pilfer-proof packaging hem part 27, If the mechanical strength of the bridge 24 is weak, the bridge 24 may be fractured at the time of cap screwing, In order to prevent this inconvenience, as the intensity of the bridge 24 is raised or it is shown in the numerals 34 and 35 in drawing 7, an engagement piece is provided in the upper and lower sides of the breaking line 25, and it is possible to prevent the bridge 24 from being cut at the time of cap screwing. However, when the intensity of the bridge 24 is raised, unstopping of a cap becomes difficult or, In the usual cap manufacturing process, it will be difficult, a special manufacturing process will become indispensable, and there being a possibility that the bridge 24 may stop turning off and tamper evidence may be spoiled, and providing an engagement piece in the upper and lower sides of the breaking line 25 will cause the rise of a manufacturing cost.

[0010]This invention was made in light of the above-mentioned circumstances, and is provided with the container with which both metal caps and the cap made of a synthetic resin can equip, And B.B.A at the time of equipping this container with the cap made of a synthetic resin can be made small, and it aims at offer of the choke which can demonstrate good tamper evidence.

[0011]

[Means for Solving the Problem]A container with which, as for a choke concerning this invention, a thread part was formed in a regio-oralis periphery, and a bulge step which bulged annularly in a method of the outside of a diameter direction was formed in a lower part of this thread part, In a choke which consists of a cap made of a synthetic resin or the metal caps in which a tamper evidence ring part which was provided with a top plate section and a cylinder part which hung from the periphery, left two or more bridges to the lower part of this cylinder part, and was divided from a principal piece with a horizontal score was formed, a bulge step of the above-mentioned container -- meeting one piece or a hoop direction via a diameter reduction part caudad -- two or more -- alienation -- an arranged locking claw, [provide and] To and an internal surface of a tamper evidence ring part of the above-mentioned cap made of a synthetic resin, there are two or more tabular tabs which can rise and fall to a sliding direction which formed protruding is carried out to a method of the inside of a diameter direction, and a one side face engages with the above-mentioned locking claw, and prevents movement in the unstopping direction of a tamper evidence ring part along a hoop direction -- alienation -- it being arranged and, And when a bead which bulged towards a method of the inside of a diameter direction is provided among these tabs, the above-mentioned container mouth part is equipped with this cap made of a synthetic resin and it turns in the unstopping direction, When the above-mentioned tab engages with the above-mentioned locking claw and the above-mentioned container mouth part is equipped with the above-mentioned metal caps, a tamper evidence ring part of this cap makes it come to engage with a lower end of a bulge step.

[0012]A container with which a thread part was formed in a regio-oralis periphery, and a bulge step which bulged annularly was formed in a method of the outside of a diameter direction in a suitable mode of a choke of this invention at a lower part of this thread part, A tamper evidence ring part which was provided with a top plate section and a cylinder part which hung from the periphery, left two or more bridges to the lower part of this cylinder part, and was divided from a principal piece with a horizontal score is formed, And in a choke which consists of a cap made of a synthetic resin with which a thread part screwed in a thread part of the above-mentioned container was provided in an internal surface of this principal piece, a bulge step of the above-mentioned container -- meeting one piece or a hoop direction via a diameter reduction part caudad -- two or more -- alienation -- an arranged locking claw, [provide and] To and an internal surface of a tamper evidence ring part of the above-mentioned cap made of a synthetic resin, there are two or more tabular tabs which can rise and fall to a sliding direction which

formed protruding is carried out to a method of the inside of a diameter direction, and a one side face engages with the above-mentioned locking claw, and prevents movement in the unstopping direction of a tamper evidence ring part along a hoop direction -- alienation -- a bead which has been arranged and bulged towards a method of the inside of a diameter direction among these tabs is provided.

[0013]In a choke provided with the above-mentioned cap made of a synthetic resin, it is desirable to arrange so that a one side face of a tab and a contact surface of a locking claw which contacts a one side face of this tab at the time of cap unstopping may be vertical planes.

[0014]In a choke provided with the above-mentioned cap made of a synthetic resin, it is good also as composition which provided at least a heavy-gage part which improves the bending-proof nature of a tab to the above-mentioned one side face among edge parts of a tab.

[0015]In a choke provided with the above-mentioned cap made of a synthetic resin, it is good also as composition which provided a vertical score which makes the shape of a band carry out ring breakage of this tamper evidence ring part to a tamper evidence ring part of a cap.

[0016]As for a choke concerning this invention, it is desirable for a bridge destructive angle which is angle of rotation to a position which rotates a cap with which a container mouth part was equipped in the unstopping direction, and from which a bridge is cut to be 90 degrees or less.

[0017]

[Function]the choke of this invention -- the bulge step of a container -- meeting one piece or a hoop direction via a diameter reduction part caudad -- two or more -- alienation -- the arranged locking claw, [form and] It has composition which made the tamper evidence ring part of the above-mentioned cap engage with the lower end or the above-mentioned locking claw of a bulge step of this container, In equipping this container with metal caps, in accordance with the periphery of a container mouth part, that cylinder part Winding up, Carry out plastic deformation and it equips so that the tamper evidence ring part lower end part of this cap may be put on the bulge step lower end part of a container, In equipping with the cap made of a synthetic resin with which the tab was formed in the tamper evidence ring part, the tab of a tamper evidence ring part is made to engage with the locking claw of a container, and it equips with it. And it can equip by having provided the diameter reduction part between the bulge step of this container, and the locking claw, without spoiling the operativity of capping devices, such as a winding up roller used at the time of metal cap wearing.

[0018]In equipping with the cap made of a synthetic resin with which the tab was formed in this container mouth part at the tamper evidence ring part, the tab of a cap moves to the position corresponding to the locking claw agenesis side which passes the periphery of a container mouth part in the state where turned that tip up and it fell, and is in the same height as a locking claw. The tab of a cap with which the container mouth part was equipped stands up so that a tip may be approached thru/or contacted on a container mouth part periphery from the state which turned the tip up and broke down from the position corresponding to a locking claw agenesis side. If the cap with which the container mouth part was equipped is turned in the unstopping direction, the one side face of a tab will contact the contact surface of a locking claw, rotation of a tamper evidence ring part will be prevented, the torque which turns a cap in the unstopping direction as a result will act on a bridge directly, and a bridge will be cut easily.

[0019]By having composition which has set and arranged two or more locking claws for the interval under the bulge step of a container mouth part, and has arranged two or more tabs to the tamper evidence ring part wall of the above-mentioned cap made of a synthetic resin, Can make power act on two or more bridges uniformly, and cutting of a bridge becomes easy, And the cap with which the container mouth part was equipped is rotated in the unstopping direction, and it becomes possible to make the bridge destructive angle (B. B.A) which is angle of rotation to the position from which a bridge is cut for it to be desirable and as small as 45 degrees or less 90 degrees.

[0020]the vertical score for carrying out ring breakage of this tamper evidence ring part to the shape of a band at the tamper evidence ring part of a cap -- or vertical -- weakening -- by forming a line, While a horizontal score is cut at the time of cap unstopping and a tamper

evidence ring part is separated from the principal piece of a cap, ring breakage of the tamper evidence ring part is carried out to the shape of a band, and removal can be easily done from a container mouth part.
[0021]When equipping a container with a cap by having provided the bead between said tabs, it can guide so that the position of a cap may be coincided with the center of a container mouth part, and a cap can be prevented from wearing aslant to a container. By having provided this bead, wire etc. can be inserted from the side side of a tab, a tab can be toppled, and the mischief which removes the cap with which the container is equipped without cutting a tamper evidence ring part can be prevented.
[0022]
[Example]Hereafter, with reference to drawings, this invention is explained in detail. Drawing 1 thru/or drawing 3 show one example of the choke concerning this invention, the numerals 50 in these figures are caps, and 70 is a container. In this example, the cap 50 is made from synthetic resins, such as polypropylene. The container 70 is made from synthetic resins, such as polyethylene terephthalate (PET). The container 70 may be glassware, without being limited to this example.
[0023]The cap 50 comprises;
The top plate section 51 which makes a round shape.
The cap body 53 which consists of the cylinder part 52 which hangs from the periphery of this top plate section 51.
The liner 54 of the shape of thin meat provided in the top plate section 51 inner-surface side of this cap body 53.
The above-mentioned cylinder part 52 leaves two or more thin bridges 55, and is divided with the horizontal score 56 by the principal piece 57 above the horizontal score 56, and the tamper evidence ring part 58 below the horizontal score 56 (henceforth a TE ring part). The male screw 71 formed in the regio-oralis periphery of the container 70 and the thread part 59 to screw are formed in the internal surface of this principal piece 57. Formed protruding of the four tabular tabs 60 which can rise and fall to a sliding direction is carried out to the lower end circles wall surface of the TE ring part 58 towards the method of the inside of a diameter direction. Among these tabs 60, swelling formation of the bead 61 is carried out towards the method of the inside of a diameter direction from the lower end circles wall surface of the TE ring part 58, and it is reducing the diameter of the inside diameter of the lower end of the cap 50, i.e., the lower end of the TE ring part 58.
[0024]The one side face 60a which contacts the locking claw 74 of the container 70 at least among the side parts of these tabs 60 at the time of unstopping of the cap 50 is a vertical plane. In this example, among the peripheries of the tab 60, at least to the one side face 60a side. The heavy-gage part 60b which turned caudad and increased thickness was formed, and when this one side face 60a and the contact surface 74a of the locking claw 74 contact and thrust is added to the one side face 60a, the crimp of the tab 60 and the tolerance over modification are given. In particular the formation position and thickness of the heavy-gage part 60b are not limited, but can improve the bending-proof nature of the tab 60, and if they moreover do not affect boom-hoisting operation of the tab 60, they can be formed by a suitable position and thickness.
[0025]The wall part of the TE ring part 58 which is in the position which faces the tab 60 when it is toppled, where the tip is turned the tab 60 up, It is more preferred than other portions of a cap to have dented in the method of the outside of a diameter direction so that the toppled tab 60 may be accommodated and it may be easy to pass the bulge step 72 of the container 70 smoothly.
[0026]As for the minimum inside diameter size of the above-mentioned bead 61, it is desirable to set up almost equally to the maximum outer diameter of the locking claw 74 of the container 70. For the mischievous purpose of unstopping the cap 50 with which the container 70 was already equipped without cutting said bridge 55. The narrowest possible thing of the crevice between the tabs 60 and the beads 61 which inserting wire etc. from the crevice between the tab 60 and the bead 61, and toppling the tab 60 twists, and become each other like is preferred. For example, as

for the crevice between 0.5-2 mm, the bead 61, and the tab 60, as height of the bulge from the wall of the TE ring part 58, it is desirable that it is about 1-5 mm.

[0027]The male screw 71 is formed in the upper part periphery of the regio oralis 70a, and the bulge step 72 in which the male screw 71 bulged annularly caudad is formed, and, as for the container 70, the flange 73 is formed in the neck of the lower part. Furthermore, under the bulge step 72, via the diameter reduction part 75, two or more locking claws 74 set an interval to a hoop direction, and are formed in it with this container 70. As for these locking claws 74, the near contact surface 74a where the one side face 60a of the tab 60 contacts at the time of unstopping of the cap 50 is formed in a vertical field, and the opposite side forms the inclined plane 74b whose diameter was reduced gradually. And the upper surface of this locking claw 74 forms further an inclined plane which inclines in a slanting lower part towards the method of the outside of a diameter direction. It is the locking claw agenesis side 76 in which each tab 60 is located where the container mouth part 70a is equipped with the cap 50 between the above-mentioned locking claws 74.

[0028]In this example, the four tabs 60 are formed in the TE ring part 58, and it has ratchet structure which formed the four locking claws 74 in the bulge step 72 lower part of the container 70. As these tabs 60 and locking claws 74 may arrange four uniformly along a hoop direction or show them to drawing 3, While the interval of the part and diameter direction opposite portion of the crevices between the four tabs 60 arranged along the hoop direction arranges so that it may become larger than the interval of the two tabs 60 approached and arranged, it may make the locking claw 74 correspond to arrangement of this tab 60, and may arrange it. When ****** one tab 60 arranges so that the tab 60 of the neighborhood and another side may become far, the mold-release characteristic at the time of the cap 50 and molding with the container 70 can be raised. In the example shown in drawing 3, the angle beta which the two locking claws 74 which were made to approach with the angle alpha which the two tabs 60 which were made to approach and have been arranged make, and have been arranged make may be about 70 degrees preferably 50 to 80 degrees.

[0029]The maximum outer diameter of the locking claw 74 of the container 70 may be equal to the outer diameter of the bulge step 72, or may be bulged in the method of outside [step / 72 / bulge]. Furthermore, the projection length from the TE ring part 58 of the tab 60 is set as the size of which the tip of the tab 60 cannot slip out caudad through the locking claw agenesis side 76.

[0030]The directions for the choke by this example are explained. Supporting the undersurface of the flange 73 movably and conveying [the container 70 is conveyed by the cap mounting device of graphic display abbreviation,] it in the state of suspension preferably, after it is filled up with desired content fluid, it carries out screwing fitting of the cap 50 at the regio oralis 70a, and equips with and seals the cap 50.

[0031]In equipping the container mouth part 70a with the cap 50, The cap 50 is prevented from the bead 61 which bulged from the lower end of the TE ring part 58 guiding so that the position of the cap 50 may be coincided with the center of the container mouth part 70a, when passing the periphery of the bulge step 72 and the locking claw 74, and being aslant equipped to the container 70. Subsequently, the tab 60 of the TE ring part 58 will be in the state where turned the tip up and it was pushed down in contact with the upper bed, the male screw 71, and the bulge step 72 of the container mouth part 70a, The periphery of the container mouth part 70a is passed, and it moves caudad according to screw fitting to the closed direction of the male screw 71 of the container 70, and the thread part 59 of the cap 50, and moves to the position which faces the locking claw 74 of the container mouth part 70a. Even if the tab 60 contacts the locking claw 74 of the container mouth part 70a at this time, the tab 60 is in the state which turned the tip upward and was pushed down, and since the inclined plane 74b side of the locking claw 74 is moreover touched, the locking claw 74 can be easily overcome along the field top of this inclined plane 74b.

[0032]As shown in drawing 2 and drawing 3, the tab 60 serves as a position corresponding to the locking claw agenesis side 76 between two or more locking claw 74 of bulge step 72 lower part, and the cap 50 with which the container mouth part 70a was equipped stands up so that the tip

may be made to contact the locking claw agenesis side 76 according to the elastic force of tab 60 self.
[0033]The upper bed and peripheral face of the container mouth part 70a are welded by pressure to the liner 54 which consists of elasticity resin provided in top plate section 51 inner surface of the cap 50, and the container 70 is sealed by it.
[0034]If the cap 50 with which the container mouth part 70a was equipped is turned in the unstopping direction when unstopping the cap 50 of this choke, by slight rotation, that one side face 60a will contact the contact surface 74a of the locking claw 74, and each tab 60 will prevent the rotation to the unstopping direction of the TE ring part 58.
[0035]The principal piece 57 of the cap 50 is turned in the unstopping direction, and since the TE ring part 58 has rotation prevented, two or more thin bridges 55 which have connected the principal piece 57 and the TE ring part 58 are rapidly pulled by the transverse direction according to rotation of the principal piece 57, and are cut promptly. As a result, it will be in the state where the TE ring part 58 was separated from the principal piece 57 of the cap 50. When this bridge 55 is cut, the liner 54 is in contact with the upper bed of the container mouth part 70a, and the peripheral face near the upper bed, and the sealing performance of the container 70 is maintained.
[0036]If the principal piece 57 of the cap 50 is further turned in the unstopping direction, the liner 54 will separate from the upper bed of the container mouth part 70a, and the peripheral face near the upper bed, the sealing seal of the container 70 will be released, the principal piece 57 will be turned further, and it will remove from the container mouth part 70a.
[0037]In the choke of this example, two or more tabs 60 which can rise and fall in the TE ring part 58 of the cap 50 are formed, When turning the cap 50 which formed two or more locking claws 74 under the bulge step 72 of the container mouth part 70a and with which the container mouth part 70a was equipped in the unstopping direction, The one side face 60a of the tab 60 is contacted by the contact surface 74a of the locking claw 74, rotation of the TE ring part 58 is prevented, the torque which turns the cap 50 in the unstopping direction as a result acts on the bridge 55 directly, and the bridge 55 is cut easily. While setting an interval to the container mouth part 70a and arranging the four locking claws 74 to it by this example furthermore, Since it had composition which set the interval to TE ring part 58 wall of the cap 50, and has arranged the four tabs 60, power can be made to act on two or more bridges 55 uniformly, and the bridge 55 can cut easily with little angle of rotation. Therefore, according to the choke of this example, the cap 50 with which the container mouth part 70a was equipped is rotated in the unstopping direction, and it becomes possible to make the bridge destructive angle (B. B.A) which is angle of rotation to the position from which the bridge 55 is cut for it to be desirable and as small as 45 degrees or less 90 degrees or less.
[0038]By having had composition which formed two or more tabs 60 which can rise and fall in TE ring part 58 internal surface of the cap 50 in the choke of this example, When equipping the container mouth part 70a with the cap 50, where the tab 60 turned the tip up and is toppled, the bulge step 72 and the locking claw 74 can be overcome, and it can equip, without applying excessive power to the bridge 55. Therefore, the cap 70 of this choke can prevent bridge cutting at the time of cap wearing, without forming a means special for the prevention from bridge cutting at the time of cap wearing.
[0039]By having constituted the one side face 60a of the tab 60, and the contact surface 74a of the locking claw 74 from a choke of this example as a vertical plane, Irrespective of the inclination degree of the tab 60, the one side face 60a of the tab 60 and the contact surface 74a of the locking claw 74 become parallel, both contact is performed certainly and effectively, and the rotation block effect of the TE ring part 58 can be heightened.
[0040]Drawing 4 shows the 2nd example of the choke of this invention. The choke by this example is provided with the almost same component as the choke in a previous example, is constituted, and has the composition of having formed the vertical score 81 for carrying out ring breakage of this TE ring part 58 to the shape of a band at the TE ring part 58 of the cap 50, in this example. The vertical scores 81 in this example are formed successively by the horizontal score 56. The bridge 55 located in the both sides of the vertical score 81 among two or more

bridges 55 may be formed more thickly than other bridges 55.
[0041]By the choke by this example could equip the container mouth part 70a with the cap 50 like the previous example, could unstop the cap 50, and having formed the vertical score 81 in the TE ring part 58, In contact with the contact surface 74a of the locking claw 74, rotation of the TE ring part 58 is prevented for the one side face 60a of the tab 60 at the time of unstopping. The bridge 55 which connects the principal piece 57 and the TE ring part 58 is cut, and ring breakage of the TE ring part 58 is carried out by cutting of the bridge 55 from the vertical score 81, and it becomes band-like, and is cut out from the principal piece 57 of the cap 50.
[0042]Since it had composition which forms the vertical score 81 in the TE ring part 58, and carries out ring breakage of the TE ring part 58 to the shape of a band in the choke of this example at the time of cap unstopping, The TE ring part 58 can be easily removed from the container mouth part 70a, an unsealing indication can become whether to be ** further, and the tamper evidence of a choke can be raised further. Since the TE ring part 58 cannot remain in the container mouth part 70a but it can remove together with the cap 50, also after use, the container 70 and the cap 50 including the TE ring part 58 can divide easily, and become easy [abandonment and reprocessing of the container 70 and the cap 50].
[0043]making it a part remain as a broad bridge in this example, without forming the horizontal score 56 of the cap 50 over the perimeter of a cap hoop direction, and adjoining the end of this broad bridge -- the vertical score 81 -- or vertical -- weakening -- it is good also as composition which formed the line. here, vertical -- weakening -- with a line, it can be considered as the thing of the structure which left the uncut portion used as a perpendicular direction bridge to the center or the end, and cut the TE ring part 58 perpendicularly, and the structure shallowly cut so that a thin joining segment might remain in the TE ring part 58. moreover -- making it adjoin the both ends, when forming the above-mentioned broad bridge -- two -- vertical -- weakening -- a line may be formed. thus -- making it adjoin the both ends of a broad bridge -- two -- vertical -- weakening -- by forming a line, one side is vertical -- weakening -- after carrying out ring breakage of the TE ring part 58 by the fracture of a line, another side which remains this band is vertical -- weakening -- it can tear off from the principal piece 57 of the cap 50 easily along a line.
[0044]Each example mentioned above illustrates the choke of this invention, and it cannot be overemphasized that various changes are possible. For example, although it had composition which allotted the liner to top plate section 51 inner surface of the cap body 53 in each above-mentioned example, it may be the linerless cap which allotted the projected rim etc. which give airtightness to the top plate section inner surface side in contact with a container mouth part upper bed, and excluded the liner. In each above-mentioned example, although the container 70 was used as plastic containers, such as PET, it can constitute as a glass container and a container without the flange 73 may be used.
[0045]Drawing 5 shows the 3rd example of the choke of this invention. This example illustrates winding up ********** for the metal caps 90 of an aluminum containing alloy etc. to the container mouth part 100. This metal cap 90 consists of the metal cap bodies 93 which consist of the top plate section 91 and the cylinder part 92 which hangs from that periphery, and the liner 94 made of the synthetic resin of the shape of thin meat provided in that top plate section 92 inner-surface side. The horizontal score 96 which left two or more thin bridges 95 to the cylinder part 92, and was provided in the hoop direction is formed, and, thereby, the cylinder part 92 is divided by the principal piece 97 and the TE ring part 98 of the lower part by the side of the top plate section 92. The cylinder parts 92 are winding up ******** so that the male screw 101 of the peripheral face of the container mouth part 100 may be met. TE ring part 98 lower end of the cylinder part 92 is fabricated so that bulge step 102 lower end of the container mouth part 100 may be covered.
[0046]The male screw 101 is formed in a peripheral face, and, as for the container mouth part 100, the bulge step 102 which bulges annularly in the method of the outside of a diameter direction directly under this male screw 101 is formed. Two or more locking claws 103 are formed in the lower part of this bulge step 102 along the hoop direction via the diameter

reduction part 104.
[0047]The choke of this example with the capping device which put the metal cap bodies which have the straight cylinder part 92 before carrying out plastic deformation of the cylinder part 92 according to container mouth part 100 periphery on the container mouth part 100, and was provided with the winding up roller. With winding up **, the lower end part of the TE ring part 98 is fabricated so that bulge step 102 lower end may be covered, and it is winding up ** so that the male screw 101 of the peripheral face of the container mouth part 100 may be met in the cylinder part 92. At this time, where it added the top load from the upper bed side of the cap 90 and the container mouth part 100 is strongly forced at the liner 94, the cylinder parts 92 are winding up ****. In this container mouth part 100, since two or more locking claws 103 were formed along the hoop direction under the bulge step 102 via the diameter reduction part 104, When fabricating TE ring part 98 lower end so that bulge step 102 lower end may be involved in, by the diameter reduction part 104, cap shaping by a molding roller etc. can be performed easily, and the locking claw 103 does not become obstructive.
[0048]And if the cap 90 with which the container mouth part 100 was equipped is turned in the unstopping direction as shown in drawing 5, Although the cap body 93 is screwed in the male screw 101 of the container mouth part 100 and goes up, since the lower end is stopped by bulge step 102 lower end of the container mouth part 100 and the rise is prevented, the TE ring part 98, Two or more bridges 95 which have connected the TE ring part 98 and the principal piece 97 are cut, the TE ring part 98 is separated from the principal piece 97, and opening is specified. Since the tensile force produced between the TE ring part 98 and the principal piece 97 at the time of unstopping can cut the bridge 95 immediately when metal caps, such as an aluminum containing alloy, are used, B.B.A can be made it is desirable and as small as 45 degrees or less 90 degrees or less.
[0049]The horizontal score 96 provided in the cylinder part 92 of the cap 90 of this example, it forms so that it may leave one broad bridge and two or more top bridges and the principal piece 97 and the TE ring part 98 may be divided, and the end of this broad bridge is adjoined, and ring breakage of the TE ring part 98 is carried out to the shape of a band -- vertical -- weakening -- it is good also as composition which formed the line. thus, vertical to the TE ring part 98 -- weakening -- the bridge 95 being turned off at the time of cap unstopping, and the horizontal score 98 being cut, and by forming a line, Ring breakage of the TE ring part 98 is carried out to the shape of a band, it cannot remain in the container mouth part 100, but can remove together with the cap 90, and the cap which includes a container and a TE ring part also after use can divide easily, and becomes easy [abandonment and reprocessing of a container and a cap].
[0050]In the above-mentioned example, the container mouth part 70 by the example which shows the metal caps 90 at it to this container mouth part 100, drawing 1, or drawing 3 although the winding up ** case was illustrated to the container mouth part 100 has the same function substantially. That is, these container mouth parts 70,100 can be equipped with all of the cap 50 made of a synthetic resin shown in drawing 1 thru/or drawing 4, and the metal caps 90 as shown in drawing 5. Namely, in equipping the container mouth part 70,100 with the cap 50 made of a synthetic resin. By making the locking claw 74,103 of the container mouth part 70,100 stop the tab 60 which carried out formed protruding to the TE ring part 58 internal surface, When tamper evidence is obtained and it equips with the metal caps 90, tamper evidence is obtained by making the lower end of the TE ring part 98 engage with the bulge step 72,102. By having formed the diameter reduction part 75,104 between the bulge step 72,102 of the container mouth parts 70a and 100, and the locking claw 74,103, When equipping with the metal caps 90, cap shaping by a molding roller etc., especially contamination shaping of a TE ring part 98 lower-end part become easy by the diameter reduction part 104.
[0051]
[Effect of the Invention]The bulge step of a container mouth part the choke of this invention as explained above caudad, meeting one piece or a hoop direction via a diameter reduction part -- two or more -- alienation -- the arranged locking claw, [form and] It has composition which made the TE ring part of the cap engage with the lower end or the above-mentioned locking claw of this bulge step, In equipping this container with metal caps, in accordance with the periphery

of a container mouth part, that cylinder part Winding up, In carrying out plastic deformation, equipping so that the TE ring subordinate end of this cap may be put on a bulge step lower end part, and equipping with the cap made of a synthetic resin with which the tab was formed in the TE ring part, the tab of a TE ring part is made to engage with a locking claw, and it equips with it. And it can equip with this container by having provided the diameter reduction part between the bulge step and the locking claw, without spoiling the operativity of capping devices, such as a winding up roller used at the time of metal cap wearing. Therefore, this choke can equip that container with metal caps and the cap made of a synthetic resin.

[0052]When this container is equipped with the cap made of a synthetic resin which formed the tab in the TE ring part, If the cap with which the container mouth part was equipped is turned in the unstopping direction, the one side face of a tab will contact the contact surface of a locking claw, Rotation of a TE ring part is prevented and the torque which turns a cap in the unstopping direction as a result acts on a bridge directly, Since a bridge is cut easily, the bridge destructive angle (B. B.A) which is angle of rotation to the position from which a bridge is cut can be lessened, B.B.A can be desirably made into 45 degrees or less 90 degrees or less with any [of the cap made of a synthetic resin, and metal caps] cap, and the good choke of the small tamper evidence of B.B.A can be provided as compared with S.R.A.

[0053]a TE ring part -- a vertical score -- or vertical -- weakening, since it had composition which forms a line and carries out ring breakage of the TE ring part to the shape of a band at the time of cap unstopping, A TE ring part can be easily removed from a container mouth part, an unsealing indication can become whether to be ** further, and the tamper evidence of a choke can be raised further. Since a TE ring part cannot remain in a container mouth part but it can remove together with a cap, also after use, a container and the cap including a TE ring part can divide easily, and become easy [abandonment and reprocessing of a container and a cap].

[0054]When equipping a container with a cap by having provided the bead between said tabs, it can guide so that the position of a cap may be coincided with the center of a container mouth part, and a cap can be prevented from wearing aslant to a container. Wire etc. can be inserted from the side side of a tab, a tab can be toppled, and the mischief which removes the cap with which it was equipped without cutting a TE ring part can be prevented.

[Translation done.]

* NOTICES *

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2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1]Drawing 1 is the front view in which the choke in which the 1st example of this invention is shown carried out partial cross sectional view.
[Drawing 2]Drawing 2 is a transverse-plane sectional view showing the same choke.
[Drawing 3]Drawing 3 shows the same choke and is an III-III line sectional view in drawing 2.
[Drawing 4]Drawing 4 is an important section front view of the choke in which the 2nd example of this invention is shown.
[Drawing 5]Drawing 5 is the front view in which the choke in which the 3rd example of this invention is shown carried out partial cross sectional view.
[Drawing 6]Drawing 6 is a perspective view showing an example of the conventional choke.
[Drawing 7]Drawing 7 is the front view showing other examples of the conventional choke which carried out cross sectional view in part.
[Drawing 8]Drawing 8 is an important section perspective view of the choke shown in drawing 7.
[Description of Notations]
50, 90 .... A cap, 51, 91 .... A top plate section, 52, 92 .... Cylinder part, 53, 93 .... A cap body, 54, 94 .... A liner, 55, 95 .... Bridge, 56, 96 .... A horizontal score, 57, 97 .... A principal piece, 58, 98 .... TE ring part (tamper evidence ring part), 59 [.... Bead,] .... A thread part, 60 .... A tab, 60a .... A one side face, 61 70,100 [.... A bulge step, 73 / .... A flange, 74,103 / .... A locking claw, 74a / .... A contact surface, 75,104 / .... A diameter reduction part, 76 / .... A locking claw agenesis side, 81 / .... Vertical score] .... A container, 70a .... A container mouth part, 71,101 .... A male screw, 72,102

[Translation done.]

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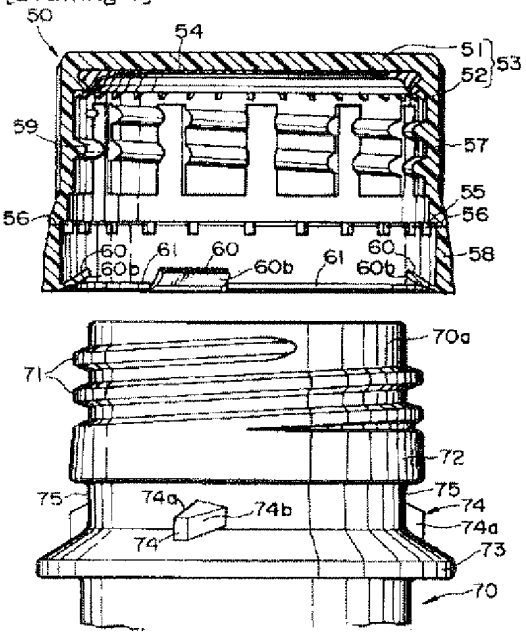
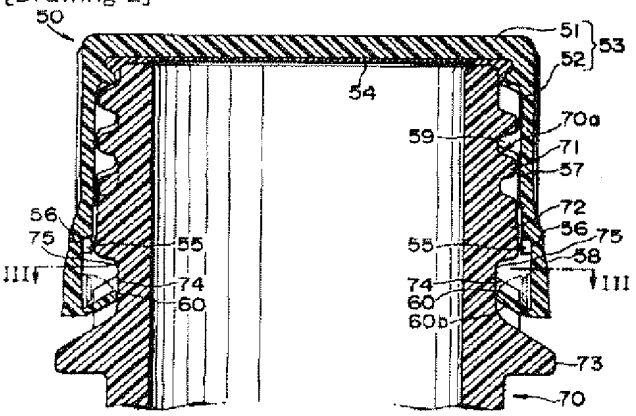
DRAWINGS

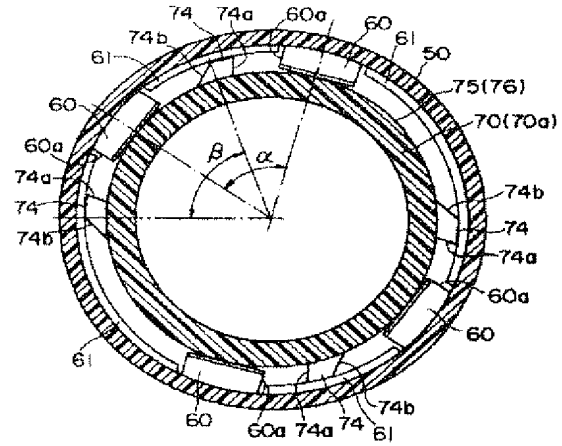
[Drawing 1]



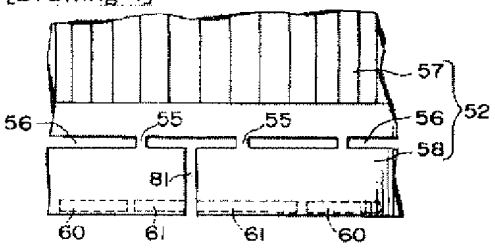
[Drawing 2]



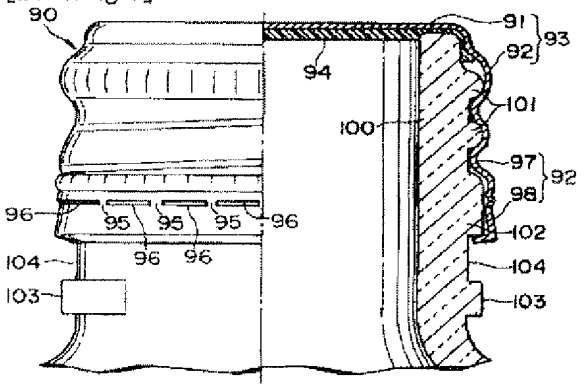
[Drawing 3]



[Drawing 4]



[Drawing 5]



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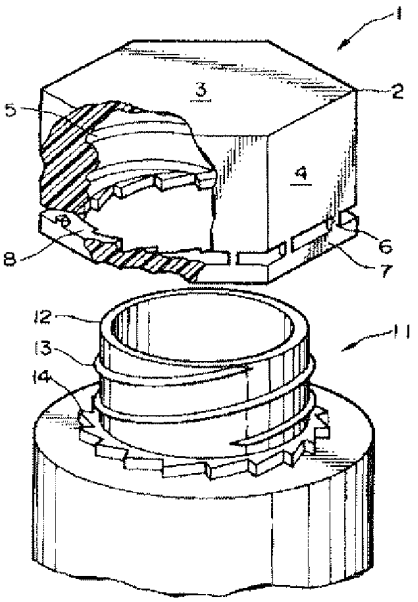
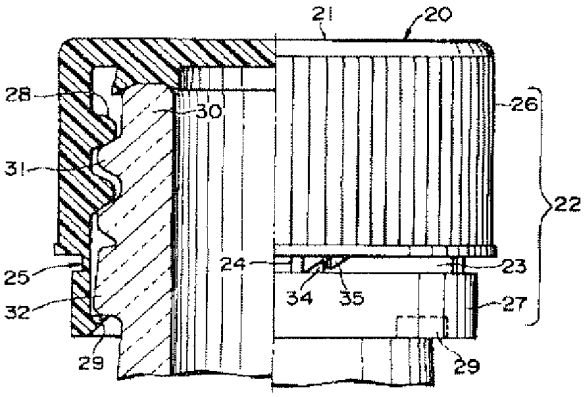
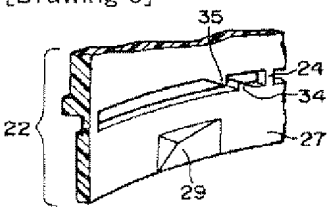


[Drawing 7]



[Drawing 8]



[Translation done.]